Results from 3 years of active surveillance for Hemolytic Uremic Syndrome (HUS) through FoodNet, United States, 1997-1999

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Background: Hemolytic uremic syndrome (HUS) is a life-threatening illness characterized by hemolytic anemia, thrombocytopenia and acute renal failure. Among children, HUS typically follows a diarrheal illness (D+HUS) caused by *E. coli* O157:H7 or other Shiga toxin-producing *E. coli* (STEC).

Methods: To better define the incidence, etiology, and clinical features of HUS in the United States, we established active surveillance for HUS cases in 1997 using a network of pediatric nephrologists practicing in FoodNet areas (CA, CT, GA, MN, MD, OR and NY). In addition, we collected information on passively reported HUS cases among adults. Medical charts of patients with HUS were reviewed following discharge to determine outcomes and sequelae of illness.

Results: From 1997 through 1999, a total of 123 HUS cases were identified in FoodNet sites. The median age of patients was 4 years (range 0-88 years); 77 (67%) were female. The annual incidence among children <16 years old was 10.6 per million. Patients with HUS were hospitalized a median of 10 days (range 0-59 days). At time of hospital discharge, 11% had persistent renal insufficiency requiring dialysis, and 17% had neurologic sequelae. Thirteen (11%) patients died. One hundred fourteen cases (93%) were preceded by a diarrheal illness. Eighty percent of patients with D+HUS reported visibly bloody stools, and 45 (37%) received antimicrobial treatment for diarrhea. Stool specimens were obtained from 112/123 (92%) patients and 100/112 (89%) were cultured specifically for *E. coli* O157 using sorbitol-MacConkey media (SMAC): *E. coli* O157:H7 was isolated from 53/100 (53%).

Conclusions: HUS is associated with significant morbidity and mortality. Although culturing with SMAC identified *E. coli* O157:H7 as the cause of over half of all D+HUS cases, the large proportion of cases with no identified etiology indicates a need for the use of other diagnostic techniques. We recommend that stools from patients with D+HUS be routinely screened for Shiga toxin-producing organisms using either EIA or PCR-based methods and that positives be cultured to identify the specific agent.

Suggested citation:

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